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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,979	12/20/2000	Kazuhiko Takaishi	3408.65028	8648

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EXAMINER	
WONG, KIN C	

ART UNIT	PAPER NUMBER
2651	12

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/742,979	Applicant(s) TAKAISHI, KAZUHIKO	
	Examiner K. Wong	Art Unit 2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/31/04 has been entered.

Claim Objections

Claims (1, 6 and 11) are objected to because of the following informalities: the phrase "dynamically-obtained" has no antecedent basis in the specification. Although this phrase is inherently known to the artisan in the art as the transparent function for read the track cross points and correcting the relative profiling speed between the head and disk to the desired track location (i.e. seek time adjustment or AGC for channel electronics or any changes (corrections) in velocity/acceleration between two reference locations (tracks)) during the seek mode (or dynamically-obtained and generated with the corrected speed profile value). Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims (1-15) are rejected under 35 U.S.C. 102(b) as being anticipated by Shimizu et al (5383067).

Regarding claim 6: Shimizu et al discloses a head positioning control device (as depicted in figure 7 of Shimizu et al) for a disk device (as depicted in figure 7) for positioning a head (element 5 in figure 7) to a predetermined position of a disk (element 1 in figure 7) by driving an actuator (element 6 in figure 7), including:

a demodulation circuit (element 8 in figure 7) which demodulates a position signal of the disk read by the head; and

a control circuit (as depicted in figure 7) which calculates a demodulation position according to the demodulation result and controls the actuator for driving the head by calculating control quantity according to the position errors between the demodulation position and the target position (see col. 17, line 33 to col. 18, line 27 of Shimizu et al);

wherein the control circuit corrects the demodulation result with a dynamically-obtained correction value which depends on an actual moving speed of the head and calculates the demodulation position (see col. 17, line 46 to col. 18, line 6 of Shimizu et al).

Regarding claim 7: Shimizu et al teaches that wherein the demodulation circuit demodulates a first position information and a second position information (see col. 5, line 67 to col. 6, line 23), which have different phases from each other (in col. 7, lines 30-44 where Shimizu et al discloses different phases for the position information signals), from the position signal; and the control circuit compares the first position information and the second position information (see col. 7, line 53 to col. 8, line 7 of Shimizu et al), corrects the first position information with a first correction value, which depends on the moving speed of the head, according to the comparison result, and

corrects the second position information with a second correction value, which depends on the moving speed of the head, according to the comparison result (in col. 5, line 67 to col. 6, line 24 and col. 7, line 65 to col. 8, line 25 where Shimizu et al discloses the signal correction process for the head speed).

Regarding claim 8: Shimizu et al teaches that wherein the demodulation circuit demodulates a track number (see col. 4, line 62 to col. 5, line 18 of Shimizu et al) and offset information from the position signal; and the control circuit selects the track number as the demodulation position when the moving speed of the head is faster than a predetermined speed, and calculates a demodulation position by correcting the offset information with a correction value which depends on the moving speed of the head when the moving speed of the head is slower than a predetermined speed (in col. 5, lines 28-58 and col. 17, line 38 to col. 18, line 27 and col. 19, line 24 to col. 20, line 43 of Shimizu et al).

Regarding claim 9: Shimizu et al teaches that wherein the demodulation circuit demodulates a track number and offset information from the position signal; and the control circuit corrects the offset information with a correction value where gain, which depends on the recording position of the offset information, is added to the moving speed of the head with the recording position of the track number as a reference (in col. 18, line 28 to col. 19, line 43 of Shimizu et al).

Regarding claim 10: Shimizu et al depicts in figure 8 that wherein the demodulation circuit demodulates a position signal of a magnetic disk read by a magnetic head (see associated descriptions for details).

Regarding claims 1-5: method claims (1-5) are drawn to the method of using the corresponding apparatus claimed in claims 6-10. Therefore method claims (1-5) correspond to apparatus claims (6-10) and are rejected for the same reasons of anticipation as used above.

Regarding claims 11-15: claims (11-15) have limitations similar to those treated in the above rejections, and are met by the reference as discussed above. Claim 11 however also recites the following limitations of a disk drive which has met by the depiction of figure 7 of Shimizu et al (see the associated descriptions for details).

Claims (1-15) are rejected under 35 U.S.C. 102(b) as being anticipated by Takaishi et al (5731973).

Regarding claim 6: Takaishi et al discloses a head positioning control device (as depicted in figure 5 of Takaishi et al) for a disk device (as depicted in figure 2 of Takaishi et al) for positioning a head (element 22 in figure 5) to a predetermined position of a disk (element 14 in figure 5) by driving an actuator (element 19 in figure 5), including:

a demodulation circuit (element 24 in figure 5) which demodulates a position signal of the disk read by the head; and

a control circuit (element 26 in figure 5) which calculates a demodulation position according to the demodulation result and controls the actuator for driving the head by calculating control quantity according to the position errors between the demodulation position and the target position (see col. 9, line 27 to col. 10, line 13 Takaishi et al);

wherein the control circuit corrects the demodulation result with a dynamically-obtained correction value which depends on an actual moving speed of the head and calculates the demodulation position (see col. 9, line 30 to col. 10, line 4 of Takaishi et al).

Regarding claim 7: Takaishi et al teaches that wherein the demodulation circuit demodulates a first position information and a second position information, which have different phases from each other, from the position signal (see col. 14-26 of Takaishi et al); and the control circuit compares the first position information and the second position information, corrects the first position information with a first correction value, which depends on the moving speed of the head, according to the comparison result, and corrects the second position information with a second correction value, which depends on the moving speed of the head, according to the comparison result (in col. 9, line 27-52 of Takaishi et al).

Regarding claim 8: Takaishi et al teaches that wherein the demodulation circuit demodulates a track number (see col. 9, lines 14-16 of Takaishi et al) and offset information from the position signal; and the control circuit selects the track number as the demodulation position when the moving speed of the head is faster than a predetermined speed, and calculates a demodulation position by correcting the offset information with a correction value which depends on the moving speed of the head when the moving speed of the head is slower than a predetermined speed (in col. 9, line 30 to col. 10, line 4 of Takaishi et al).

Regarding claim 9: Takaishi et al teaches that wherein the demodulation circuit demodulates a track number and offset information from the position signal; and the control circuit corrects the offset information with a correction value where gain, which depends on the recording position of the offset information, is added to the moving speed of the head with the recording position of the track number as a reference are considered inherent because the track number and offset information (in col. 9, line 30 to col. 10, line 4 of Takaishi et al).

Regarding claim 10: Takaishi et al depicts in figure 5 that wherein the demodulation circuit demodulates a position signal of a magnetic disk read by a magnetic head.

Regarding claims 1-5: method claims (1-5) are drawn to the method of using the corresponding apparatus claimed in claims 6-10. Therefore method claims (1-5) correspond to apparatus claims (6-10) and are rejected for the same reasons of anticipation as used above.

Regarding claims 11-15: claims (11-15) have limitations similar to those treated in the above rejections, and are met by the references as discussed above. Claim 11 however also recites the following limitations of a disk drive which has met by figure 4 of Takaishi et al.

Response to Arguments

The remarks filed on 3/3/04 have been addressed in paper # 9. Furthermore, Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection to the newly amended claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rose (4168457) is cited for head speed control in a disk drive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Wong whose telephone number is (703) 305-7772.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Hudspeth can be reached on (703) 308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kw

54 Jun 04

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